ABSTRACT OF THE DISCLOSURE

A dynamic parity distribution system and technique distributes parity across disks of an array. The dynamic parity distribution system includes a storage operating system that integrates a file system with a RAID system. In response to a request to store (write) data on the array, the file system determines which disks contain free blocks in a next allocated stripe of the array. There may be multiple blocks within the stripe that do not contain file system data (i.e., unallocated data blocks) and that could potentially store parity. One or more of those unallocated data blocks can be assigned to store parity, arbitrarily. According to the dynamic parity distribution technique, the file system determines which blocks hold parity each time there is a write request to the stripe. The technique alternately allows the RAID system to assign a block to contain parity when each stripe is written.